Mathematics 566 (Advanced Complex Analysis)

Instructor:

Professor J. A. Toth   Lectures M-W 10:05- 11:25.

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Textbook: There is no official textbook for the course. References will be given in class.

Assignments: There will be homework problems handed out periodically throughout the course. These are for the benefit of students, but will not be handed-in or graded.

Syllabus: The first part of the course will develop the analytic (and geometric) machinery needed to prove the Hodge Theorem for the Dolbeault $\bar{\partial}$ complex on Riemann surfaces. The second part of the course will cover the Hörmander $\bar{\partial}$ estimates and applications to the Korn-Lichtenstein Theorem (ie. existence of locally conformally flat metrics on Riemann surfaces). Additional topics related to uniformization will be covered if time permits.

Grading Scheme: All students will be required to write a 10-15 page paper on a topic of their choice that is relevant to the course. Undergraduate grades will be based entirely on the term paper. Graduate students will also be required to present a 30 minute talk in class which will account for 30% of their grade. Their is no final exam for the course.

Statement on Academic Integrity: McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see www.mcgill.ca/integrity for more information).

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.